

# Balazs

## Packet

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## Native American Mythology

Each Native American group has its own tribal mythology, or cosmology, which describes its origin, explains the genesis of the cosmos, including the earth and its myriad life forms, and provides models for modern behavior. Mythology, or cosmology, is a mirror of and a map for the culture that believes and practices it. Therefore, mythology may be defined as a great body of truth for the people who believe it. Mythology explains the relationship of the people to the cosmos. Some people prefer the word *cosmology* to the term *mythology*.

Each Native American society possesses its distinct cosmology, but groups also share beliefs and practices that illustrate a common spirit world system. The elements of this spiritual framework include the following: (1) a belief that invisible powers operate in the universe; (2) the knowledge that these positive and negative powers of the universe are balanced, and consequently humans must seek balance and harmony in their lives; (3) the need for humans to respect, revere, and be responsible for the earth and its creatures; (4) the belief that healing specialists may acquire knowledge about supernatural beings and powers is to contact them through dreams and visions; (5) a recognition of the spiritual power of words and stories; and (6) the belief that sacred time, sacred place, and sacred stories unite the people and the natural world for Native Americans today.

Thront, Lawana. "The Spirit World." *Native American Literature*. New York: McGraw Hill, 1998.

that cedar tree," said Mother-Corn. "The Black-Meteor-Star placed it there. The Star stands solid, for its right leg is cedar; its left leg is stone. It can not be blown away. Yet under its branches." So the people crawled under its branches. The Black-Wind came and took many people, notwithstanding.

The people came out, and they went on. They came to another difficulty—a steep mountain bank, and they stopped. The Bear came forth, and said, "I will go through this place first." So the Bear went to digging steps for the people. Steps were made on both sides and the people went across.

After they had been gone for some time, a Dog came up, and said: "Why did you people leave me behind? I shall be the one that you shall kill, and my meat shall be offered to the gods. I shall also fix it so that all animals shall make great medicine-men of you. My father is the Sun. He has given me all this power. I will give my power to all animals, then I will stay with the people, so they will not forget my promise to them." The people were thankful to the Dog.

### 5. The Iroquois Depict the World on the Turtle's Back, n. d.

In the beginning there was no world, no land, no creatures of the kind that are around us now, and there were no men. But there was a great ocean which occupied space as far as anyone could see. Above the ocean was a great void of air. And in the air there lived the birds of the sea; in the ocean lived the fish and the creatures of the deep. Far above this unpeopled world, there was a Sky-World. Here lived gods who were like people—like Iroquois.

In the Sky-World there was a man who had a wife, and the wife was expecting a child. The woman became hungry for all kinds of strange delicacies, as women do when they are with child. She kept her husband busy almost to distraction finding delicious things for her to eat.

In the middle of the Sky-World there grew a Great Tree which was not like any of the trees that we know. It was tremendous; it had grown there forever. It had enormous roots that spread out from the floor of the Sky-World. And on its branches there were many different kinds of leaves and different kinds of fruits and flowers. The tree was not supposed to be marked or mutilated by any of the beings who dwelt in the Sky-World. It was a sacred tree that stood at the center of the universe.

The woman decided that she wanted some bark from one of the roots of the Great Tree—perhaps as a food or as a medicine, we don't know. She told her husband this. He didn't like the idea. He knew it was wrong. But she insisted, and he gave in. So he dug a hole among the roots of this great sky tree, and he bared some of its roots. But the floor of the Sky-World wasn't very thick, and he broke a hole through it. He was terrified, for he had never expected to find empty space underneath the world.

so she set out to do it herself. She bent over and she looked down, and she saw the ocean far away. She leaned down and stuck her head through the hole and looked all around. No one knows just what happened next. Some say she slipped. Some say that her husband, fed up with all the demands she had made on him, pushed her.

So she fell through the hole. As she fell, she frantically grabbed at its edges, but her hands slipped. However, between her fingers there clung bits of things that were growing on the floor of the Sky-World and bits of the root tips of the Great Tree. And so she began to fall toward the great ocean far below.

The birds of the sea saw the woman falling, and they immediately consulted with each other as to what they could do to help her. Flying wingtip to wingtip they made a great feathery raft in the sky to support her, and thus they broke her fall. But of course it was not possible for them to carry the woman very long. Some of the other birds of the sky flew down to the surface of the ocean and called up the ocean creatures to see what they could do to help. The great sea turtle came and agreed to receive her on his back. The birds placed her gently on the shell of the turtle, and now the turtle floated about on the huge ocean with the woman safely on his back.

The beings up in the Sky-World paid no attention to this. They knew what was happening, but they chose to ignore it.

When the woman recovered from her shock and terror, she looked around her. All that she could see were the birds and the sea creatures and the sky and the ocean. And the woman said to herself that she would die. But the creatures of the sea came to her and said that they would try to help her and asked her what they could do. She told them that if they could get some soil, she could plant the roots stuck between her fingers, and from them plants would grow. The sea animals said perhaps there was dirt at the bottom of the ocean, but no one had ever been down there so they could not be sure.

If there was dirt at the bottom of the ocean, it was far, far below the surface in the cold deeps. But the animals said they would try to get some. One by one the diving birds and animals tried and failed. They went to the limits of their endurance, but they could not get to the bottom of the ocean. Finally, the muskrat said he would try. He dived and disappeared. All the creatures waited, holding their breath, but he did not return. After a long time, this little body floated up to the surface of the ocean, a tiny crumb of earth clutched in his paw. He seemed to be dead. They pulled him up on the turtle's back and they sang and prayed over him and breathed air into his mouth, and finally, he stirred. Thus it was the muskrat, the Earth-Diver, who brought from the bottom of the ocean the soil from which the earth was to grow.

The woman took the tiny clod of dirt and placed it on the middle of the great sea turtle's back. Then the woman began to walk in a circle around it, moving in the direction that the sun goes. The earth began to grow. When the earth was big enough, she planted the roots she had clutched between her fingers when she fell from the Sky-World. Thus the plants grew on the earth.

To keep the earth growing, the woman walked as the sun goes, moving in the direction that the people still move in the dance rituals. She gathered roots and plants to eat and built herself a little hut. After a while, the woman's time came, and she was delivered of a daughter. The woman and her daughter kept walking in a circle around the earth, so that the earth and plants would continue to grow. They

lived on the plants and roots they gathered. The girl grew up with her father, cut off forever from the Sky-World above, knowing only the birds and the creatures of the sea, seeing no other beings like herself.

One day, when the girl had grown to womanhood, a man appeared. No one knows for sure who this man was. He had something to do with the gods above. Perhaps he was the West Wind. As the girl looked at him, she was filled with terror, and amazement, and warmth, and she fainted dead away. As she lay on the ground, the man reached into his quiver, and he took out two arrows, one sharp and one blunt, and he laid them across the body of the girl, and quietly went away.

When the girl awoke from her faint, she and her mother continued to walk around the earth. After a while, they knew that the girl was to bear a child. They did not know it, but the girl was to bear twins.

Within the girl's body, the twins began to argue and quarrel with one another. There could be no peace between them. As the time approached for them to be born, the twins fought about their birth. The right-handed twin wanted to be born in the normal way, as all children are born. But the left-handed twin said no. He said he saw light in another direction, and said he would be born that way. The right-handed twin beseeched him not to, saying that he would kill their mother. But the left-handed twin was stubborn. He went in the direction where he saw light. But he could not be born through his mother's mouth or her nose. He was born through her left armpit, and killed her. And meanwhile, the right-handed twin was born in the normal way, as all children are born.

The twins met in the world outside, and the right-handed twin accused his brother of murdering their mother. But the grandmother told them to stop their quarreling. They buried their mother. And from her grave grew the plants which the people still use. From her head grew the corn, the beans, and the squash—"our supporters, the three sisters." And from her heart grew the sacred tobacco, which the people still use in the ceremonies and by whose upward-floating smoke they send thanks. The women call her "our mother," and they dance and sing in the rituals so that the corn, the beans, and the squash may grow to feed the people.

But the conflict of the twins did not end at the grave of their mother. And, strangely enough, the grandmother favored the left-handed twin.

The right-handed twin was angry, and he grew more angry as he thought how his brother had killed their mother. The right-handed twin was the one who did everything just as he should. He said what he meant, and he meant what he said. He always told the truth, and he always tried to accomplish what seemed to be right and reasonable. The left-handed twin never said what he meant or meant what he said. He always lied, and he always did things backward. You could never tell what he was trying to do because he always made it look as if he were doing the opposite. He was the devious one.

These two brothers, as they grew up, represented two ways of the world which are in all people. The Indians did not call these the right and the wrong. They called them the straight mind and the crooked mind, the upright man and the devious man, the right and the left.

The twins had creative powers. They took clay and modeled it into animals, and they gave these animals life. And in this they contended with one another. The right-handed twin made the deer, and the left-handed twin made the mountain lion which

eer. But the right-handed twin knew there would always be more deer than lions. And he made another animal. He made the ground squirrel. The ad twin saw that the mountain lion could not get to the ground squirrel, a hole, so he made the weasel. And although the weasel can go into the squirrel's hole and kill him, there are lots of ground squirrels and not so weasels. Next the right-handed twin decided he would make an animal that he could not kill, so he made the porcupine. But the left-handed twin made who flips the porcupine over on his back and tears out his belly.

the right-handed twin made berries and fruits of other kinds for his creative on. The left-handed twin made briars and poison ivy, and the poisonous are the baneberry and the dogberry, and the suicide root with which people injure themselves when they go out of their minds. And the left-handed twin made herbs for good and for evil, for doctoring and for witchcraft.

finally, the right-handed twin made man. The people do not know just how the left-handed twin had to do with making man. Man was made of clay, and baked in the fire.

world the twins made was a balanced and orderly world, and this was the plant-eating animals created by the right-handed twin would eat up all the meat-eating animals which the left-handed twin created. But if these carnivorous animals ate too many other animals, then they would starve, for they would run out of meat. So the right-handed twins built balance into the world.

he twins became men full grown, they still contested with one another. No won, and no one had lost. And they knew that the conflict was becoming and sharper and one of them would have to vanquish the other.

so they came to the duel. They started with gambling. They took a wooden board and divided it into four pits. One side of the pits was burned black, and by day or night they put wild plum pits. If one gambled wrong, he would fall, they gambled the pits in the bowl, and betting on how these would fall, they gambled one another, as the people still do in the New Year's rites. All through the day they gambled at this game, and all through the afternoon, and the sun went down when the sun went down, the game was done, and neither one had won. They went on to battle one another at the lacrosse game. And they contested and the sun went down, and the game was done. And neither had won. And now they battled with clubs, and they fought all day, and the sun went down and the fight was done. But neither had won.

And they went from one duel to another to see which one would succumb. He knew in his deepest mind that there was something, somewhere, that would conquer the other. But what was it? Where to find it? He knew somewhere in his mind what it was that was his own weak point. He liked about this as they contested in these duels, day after day, and somehow the mind of each entered into the other. And the deep mind of the right-handed twin told the truth. And the deep mind of the left-handed twin told the truth.

the last day of the duel, as they stood, they at last knew how the right-twin was to kill his brother. Each selected his weapon. The left-handed twin were stick that would do him no good. But the right-handed twin picked out a hammer, and with one touch he destroyed his brother. And the left-handed

and cast it off the edge of the earth. And some place below the world, the left-handed twin still lives and reigns.

When the sun rises from the east and travels in a huge arc along the sky dome, which rests like a great upside-down cup on the saucer of the earth, the people are in the daylight realm of the right-handed twin. But when the sun slips down in the west at nightfall and the dome lifts to let it escape at the western rim, the people are again in the domain of the left-handed twin—the fearful realm of night.

Having killed his brother, the right-handed twin returned home to his grandmother. And she met him in anger. She threw the food out of the cabin onto the ground, and said that he was a murderer, for he had killed his brother. He grew angry and told her she had always helped his brother, who had killed their mother. In his anger, he grabbed her by the throat and cut her head off. Her body he threw into the ocean, and her head, into the sky. There "Our Grandmother, the Moon," still keeps watch at night over the realm of her favorite grandson.

The right-handed twin has many names. One of them is Sapling. It means smooth, young, green and fresh and innocent, straightforward, straight-growing, soft and pliable, teachable and trainable. These are the old ways of describing him. But since he has gone away, he has other names. He is called "He Holds Up the Skies," "Master of Life," and "Great Creator."

The left-handed twin also has many names. One of them is Flint. He is called the devious one, the one covered with boils, Old Warty. He is stubborn. He is thought of as being dark in color.

These two beings rule the world and keep an eye on the affairs of men. The right-handed twin, the Master of Life, lives in the Sky-World. He is content with the world he helped to create and with his favorite creatures, the humans. The scent of sacred tobacco rising from the earth comes gloriously to his nostrils.

In the world below lives the left-handed twin. He knows the world of men, and he finds contentment in it. He hears the sounds of warfare and torture, and he finds them good.

In the daytime, the people have rituals which honor the right-handed twin. Through the daytime rituals they thank the Master of Life. In the nighttime, the people dance and sing for the left-handed twin.

Hurtado, Albert L. & Peter Iversen. Major Problems in American Indian History. Boston: Houghton Mifflin, 2001.

# A PEOPLE'S HISTORY OF THE UNITED STATES

1492-PRESENT

2003

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*New York, NY*

HARPERPERENNIAL MODERNCLASSICS

In the villages of the Iroquois, land was owned in common and worked in common. Hunting was done together, and the catch was divided among the members of the village. Houses were considered common property and were shared by several families. The concept of private ownership of land and homes was foreign to the Iroquois. A French Jesuit priest who encountered them in the 1650s wrote: "No poorhouses are needed among them, because they are neither mendicants nor paupers. . . . Their kindness, humanity and courtesy not only makes them liberal with what they have, but causes them to possess hardly anything except in common."

Women were important and respected in Iroquois society. Families were matrilineal. That is, the family line went down through the female members, whose husbands joined the family, while sons who married then joined their wives' families. Each extended family lived in a "long house." When a woman wanted a divorce, she set her husband's things outside the door.

Families were grouped in clans, and a dozen or more clans might make up a village. The senior women in the village named the men who represented the clans at village and tribal councils. They also named the forty-nine chiefs who were the ruling council for the Five Nation confederacy of the Iroquois. The women attended clan meetings, stood behind the circle of men who spoke and voted, and removed the men from office if they strayed too far from the wishes of the women.

The women tended the crops and took general charge of village affairs while the men were always hunting or fishing. And since they supplied the moccasins and food for warring expeditions, they had some control over military matters. As Gary B. Nash notes in his fascinating study of early America, *Red, White, and Black*: "Thus power was shared between the sexes and the European idea of male dominance and female subordination in all things was conspicuously absent in Iroquois society."

Children in Iroquois society, while taught the cultural heritage of their people and solidarity with the tribe, were also taught to be independent, not to submit to overbearing authority. They were taught equality in status and the sharing of possessions. The Iroquois did not use harsh punishment on children; they did not insist on early weaning or early toilet training, but gradually allowed the child to learn self-care.

All of this was in sharp contrast to European values as brought over by the first colonists, a society of rich and poor, controlled by priests, by governors, by male heads of families. For example, the pastor of the Pilgrim colony, John Robinson, thus advised his parishioners how to deal with their children: "And surely there is in all children . . . a stub-

borness, and stoutness of mind arising from natural pride, which must, in the first place, be broken and beaten down; that so the foundation of their education being laid in humility and tractableness, other virtues may, in their time, be built thereon."

Gary Nash describes Iroquois culture:

No laws and ordinances, sheriffs and constables, judges and juries, or courts or jails—the apparatus of authority in European societies—were to be found in the northeast woodlands prior to European arrival. Yet boundaries of acceptable behavior were firmly set. Though priding themselves on the autonomous individual, the Iroquois maintained a strict sense of right and wrong. . . . He who stole another's food or acted invalorously in war was "shamed" by his people and ostracized from their company until he had atoned for his actions and demonstrated to their satisfaction that he had morally purified himself.

Not only the Iroquois but other Indian tribes behaved the same way. In 1635, Maryland Indians responded to the governor's demand that if any of them killed an Englishman, the guilty one should be delivered up for punishment according to English law. The Indians said:

It is the manner amongst us Indians, that if any such accident happen, wee doe redeeme the life of a man that is so slaine, with a 100 armes length of Beades and since that you are heere strangers, and come into our Countrey, you should rather conform yourselves to the Customes of our Countrey, than impose yours upon us. . . .

So, Columbus and his successors were not coming into an empty wilderness, but into a world which in some places was as densely populated as Europe itself, where the culture was complex, where human relations were more egalitarian than in Europe, and where the relations among men, women, children, and nature were more beautifully worked out than perhaps any place in the world.

They were people without a written language, but with their own laws, their poetry, their history kept in memory and passed on, in an oral vocabulary more complex than Europe's, accompanied by song, dance, and ceremonial drama. They paid careful attention to the development of personality, intensity of will, independence and flexibility, passion and potency, to their partnership with one another and with nature.

John Collier, an American scholar who lived among Indians in the 1920s and 1930s in the American Southwest, said of their spirit: "Could

Sitko, Leelin. Ceremony. New York.

Penguin, 1997.

(edited version of pp 132-138)

there was nothing European.  
And this world might have gone on like that  
except for one thing:  
witchery.

This world was already complete  
even without white people.  
There was everything  
including witchery.

Then it happened.  
These witch people got together.  
Some came from far away  
across oceans

across mountains.  
Some had slanty eyes  
others had black skin.

They all got together for a contest  
the way people have baseball tournaments nowadays  
except this was a contest  
in dark things.

So anyway  
they all got together  
witch people from all directions  
witches from all the Pueblos  
and all the tribes.

They had Navajo witches there,  
some from Hopi, and a few from Zuni.  
They were having a witches' conference,  
that's what it was

Way up in the lava rock hills  
north of Cañoncito  
they got together  
to fool around in caves  
with their animal skins.

Fox, badger, bobcat, and wolf  
they circled the fire

Long time ago  
in the beginning  
there were no white people in this world

and on the fourth time  
they jumped into that animal's skin.

But this time it wasn't enough  
and one of them  
maybe a Sioux or some Eskimos  
started showing off.  
"That wasn't anything,  
watch this."

The contest started like that.  
Then some of them lifted the lids  
on their big cooking pots,  
calling the rest of them over  
to take a look:  
dead babies simmering in blood  
circles of skull cut away  
all the brains sucked out.  
Witch medicine  
to dry and grind into powder  
for new victims.

Others untied skin bundles of disgusting objects:  
dark flints, cinders from burned hogans where the dead lay  
Whorls of skin  
cut from fingertips

Finally there was only one  
who hadn't shown off charms or powers.  
The witch stood in the shadows beyond the fire  
and no one ever knew where this witch came from  
which tribe  
or if it was a woman or a man.  
But the important thing was  
this witch didn't show off any dark thunder charcoals  
or red ant-hill beads.

This one just told them to listen:  
"What I have is a story."

At first they all laughed  
but this witch said

Okay  
go ahead  
laugh if you want to  
but as I tell the story  
it will begin to happen.

Set in motion now  
set in motion by our witchery  
to work for us.

Caves across the ocean  
in caves of dark hills  
white skin people  
like the belly of a fish  
covered with hair.

Then they grow away from the earth  
then they grow away from the sun  
then they grow away from the plants and animals.

They see no life  
When they look  
they see only objects.

The world is a dead thing for them  
the trees and rivers are not alive.  
the mountains and stones are not alive.  
The deer and bear are objects  
They see no life.

They fear  
They fear the world.  
They destroy what they fear.  
They fear themselves.



*The wind will blow them across the ocean  
thousands of them in giant boats  
swarming like larva  
out of a crushed ant hill.*

*They will carry objects  
which can shoot death  
faster than the eye can see.*

*They will kill the things they fear  
all the animals  
the people will starve.*

*They will poison the water  
they will spin the water away  
and there will be drought  
the people will starve.*

*They will fear what they find  
They will fear the people  
They kill what they fear.*

*Entire villages will be wiped out  
They will slaughter whole tribes.*

*Corpses for us  
Blood for us*

*Killing killing killing killing.*

*And those they do not kill  
will die anyway  
at the destruction they see  
at the loss*

*at the loss of the children  
the loss will destroy the rest.*

*Stolen rivers and mountains  
the stolen land will eat their hearts  
and jerk their mouths from the Mother.  
The people will starve.*

*They will bring terrible diseases  
the people have never known.*

*Entire tribes will die out  
covered with festered sores  
shitting blood  
vomiting blood.*

*Corpses for our work*

*Set in motion now  
set in motion by our witchery  
set in motion  
to work for us.*

*They will take this world from ocean to ocean  
they will turn on each other  
they will destroy each other*

*Up here  
in these hills  
they will find the rocks,  
rocks with veins of green and yellow and black.  
They will lay the final pattern with these rocks  
they will lay it across the world  
and explode everything.*

*Set in motion now  
set in motion*

*To destroy*

*To kill*

*Objects to work for us  
objects to act for us*

*Performing the witchery  
for suffering  
for torment  
for the still-born  
the deformed  
the sterile  
the dead.*

*Whirling  
whirling  
whirling  
whirling*

*set into motion now  
set into motion.*

So the other witches said

"Okay you win; you take the prize,  
but what you said just now—  
it isn't so funny

It doesn't sound so good.

We are doing okay without it  
we can get along without that kind of thing.  
Take it back.

Call that story back."

But the witch just shook its head

at the others in their stinking animal skins, fur and feathers.

*It's already turned loose.*

*It's already coming.*

*It can't be called back.*

## Note-Taking Guide for 500 Nations Film Segment (1)

The Ancestors: “There are as many stories of creation as there are Indian nations.”

You will hear a series of creation myths, with the name of the tribe it belongs to at the end of the myth. The tribes are listed here in order to make taking notes easier for you.

- Taos Pueblo (Southwest):
- Winnebago (Northeast):
- Yakama (Pacific Northwest):
- *Genesis. How is this account different?*
- Crow (Great Plains):
- Tsimshian (Pacific Northwest):
- Ojibwa (Northern Plains):

### The Anasazi

1. How is the landscape of the Southwest viewed by outsiders? By the Anasazi?
2. Describe the kind of structure in which the Anasazi first lived.
3. Why did the Anasazi build Pueblo Bonito in Chaco Canyon in 900 AD? How big was it at its peak?
4. Who did the people of Chaco Canyon trade with primarily?

5. Who lived in Cliff Palace, (in Mesa Verde, CO?) What key value does the organization of their society reflect?

Cahokia: City of the Sun

6. Where was Cahokia?
7. The man from the sun who comes to Cahokia tells the people that they should not...
8. How large was Cahokia? In what year did another American city finally surpass its size?
9. What kinds of shelters did they live in?
10. How ancient is the mound building culture in North America? Where were some of the funeral mounds found and how big were they?
11. What is Bill Day's response to those who say that he and his ancestors worship the sun?

## POWHATAN

*One of the most familiar tales about colonial America is the story that the Jamestown settlers would never have survived the winter of 1607–1608 without the aid of the Powhatan Indians. Even with that help, only half the settlers were still alive by the spring of 1608. But deep-seated English distrust and belligerence toward the Indians elicited distrust of the settlers from the Powhatan tribe. By 1609, tensions between the two groups erupted into open warfare. In 1612, after his return to England, Captain John Smith published an account of the Jamestown colony in which he recorded the following speech by the Indian chief Powhatan.*

## SPEECH TO JOHN SMITH, 1609

Captaine Smith, you may understand that I having scene the death of all my people thrice, and not any one living of these three generations but my selfe; I know the difference of Peace and Warre better than any in my Country. But now I am old and ere long must die, my brethren, namely Opitchapam, Opechan-canough, and Kekataugh, my two sisters, and their two daughters, are distinctly each other successors. I wish their experience no lesse then mine, and your love to them no lesse then mine to you. But this bruit from Nandsamund, that you are come to destroy my Country, so much affrighteth all my people as they dare not visit you. What will it availle you to take that by force you may quickly have by love, or to destroy them that provide you food. What can you get by warre, when we can hide our provisions and fly to the woods? Whereby you must famish by wronging us your friends. And why are you thus jealous of our loves seeing us unarmed, and both doe, and are willing still to feede you, with that you cannot get but by our labours? Thinke you I am so simple, not to know it is better to eate good meate, lye well, and sleepe quietly with my women and children, laugh and be merry with you, have copper, hatchets, or what I want being your friend: then be forced to flie from all, to lie cold in the woods, feede upon Acornes, rootes, and such trash, and be so hunted by you, that I can neither rest, eate, nor sleepe; but my tyred men must watch, and if a twig but breake, every one cryeth there commeth Captaine Smith: then must I fly I know not whether: and thus with miserable feare, end my miserable life leaving my pleasures to such youths as you, which through your rash unadvisednesse may quickly as miserably end, for want of that, you never know where to finde. Let this therefore assure you of our loves, and every yeare our friendly trade shall furnish you with Corne; and now also, if you would come in friendly manner to see us, and not thus with your guns and swords as to invade your foes.

## America, Found & Lost

By Charles C. Mann (National Geographic)

Jamestown is known for inaugurating the great American struggles over democracy (the colony established English America's first representative government) and slavery (it was the first English colony to use captured Africans). The colonists did not come to the Americas alone. Instead they were accompanied by a great parade of insects, plants, mammals, and microorganisms. Some of the effects were almost invisible; others were enormous. Together with the newcomers' different ways of managing the land, these creatures literally changed the ground beneath the Indians' feet. Setting up camp on marshy Jamestown peninsula, the colonists were taking the first steps toward creating the American landscape we know today.

TWO HUNDRED AND FIFTY MILLION years ago the world contained a single landmass known to scientists as Pangaea. Geologic forces broke this vast expanse into pieces, sundering Eurasia and the Americas. Over time the two halves of the world developed wildly different suites of plants and animals. Columbus's signal accomplishment was, in the phrase of historian Alfred Crosby, to reknit the torn seams of Pangaea. After 1492, the world's ecosystems collided and mixed as European vessels carried thousands of species to new homes across the oceans. The Columbian exchange, as Crosby called it, is why there are tomatoes in Italy, oranges in Florida, chocolates in Switzerland, and hot peppers in Thailand. It is arguably the most important event in the history of life since the death of the dinosaurs.

For English America, Jamestown was the opening salvo in the Columbian exchange. And it began 400 years ago this month, on May 14, 1607, when 104 colonists disembarked on Jamestown peninsula, on the southern fringe of Chesapeake Bay. Much of what we learned in grade school about the New World encountered by the colonists at Jamestown turns out to be wrong. In movies and textbooks the colonists are often depicted as arriving in a pristine forest of ancient trees, small bands of Indians gliding, silent as ghosts, beneath the canopy. But the idea that the English were "settlers" of land that was unsettled before they arrived is complete nonsense. In fact, three English ships landed in the middle of a small but rapidly expanding Indian empire called Tsenacomoco.

Three decades before, Tsenacomoco had been a collection of six separate chiefdoms. By the time the foreigners came from overseas, its paramount chief, Powhatan, had tripled its size to about 8,000 square miles (21,000 square kilometers) and more than 14,000 people. Wary, politically shrewd, ruthless when needed, Powhatan was probably in his 60s when the English landed—a "goodly old man, not yet shrinking" with age, according to colonist Strachey, "well beaten with many cold and stormy winters," but still "of a tall stature and clean limbs." His sphere of influence stretched from the Potomac to Cape Henry.

Most of Powhatan's people (known by the colonists as the Powhatan Indians) lived in villages of a few hundred inhabitants surrounded by large tracts of cleared land: cornfields and former cornfields. Except for defensive palisades, the landscape was unfenced. By a quirk of evolutionary history, North America had, except for dogs, no large domesticable mammals; its native species, such as bison and deer, could not be tamed. With no horses, cattle, sheep, goats, or chickens to tend, villagers had no need to enclose their fields.

Between the villages was the forest, splendid with chestnut and elm but hardly untouched. "It was touched, and sometimes heavily," says Donald Young, an ecologist at Virginia Commonwealth University in Richmond. In the fall, Indians burned the underbrush, keeping the forest so open and park like,

colonist John Smith wrote, that "a man may gallop a horse amongst these woods." With Indian villages dotting the region's many riverbanks, the Chesapeake Bay was a jumble of farm fields, marshes, deep forest, and secondary forest (young trees growing on abandoned plots). Jamestown peninsula was an example of the last; it had been cleared, perhaps for farm fields, a generation or two before the English arrived.

The new colony was a private enterprise funded by a group of venture capitalists called the Virginia Company. Much like investors in today's dot-com start-ups, the backers wanted a quick return. They believed, incorrectly, that the Chesapeake Bay region was laden, like Mexico and Peru, with vast stores of gold and silver. The goal was to acquire these precious metals as expeditiously as possible. Spain, too, believed that gold and silver could be found there. It had long ago claimed what is now the U.S. East Coast for itself and in 1570 had planted a mission a few miles north of Jamestown.

The local Indians wiped out that mission. English colonists who settled on Roanoke Island 110 miles (180 kilometers) south of Jamestown in the 1580s may also have met their end at the hands of a native group—very possibly the Powhatan. Nonetheless the Virginia Company directors worried more about protecting their investment from distant Spain than from the Indians. They instructed the colonists—their employees, in today's terms—to settle far from the ocean, "a hundred miles [160 kilometers] from the river's mouth," which would minimize the chance of sudden assault by Spanish ships. And they told them to make sure the settlement was close to a deepwater anchorage, so they could lay up "provisions with ease." In all they did, the directors warned, the colonists should act with "great care not to offend the naturals [Indians]."

Jamestown was the result. Not wanting to antagonize Powhatan, the newcomers—*tassantassas* (strangers), as the Indians called them—looked for uninhabited ground. Because native villages occupied all the good land upriver, the colonists ended up picking a site about 35 miles (55 kilometers) from the mouth of the James. It was a peninsula near a bend in the river, at a place where the current cut a deep channel so close to the shore that oceangoing ships could be moored to the trees.

Alas, there was a reason no Indians lived at Jamestown: It was not a good place to live. The English were like the last people moving into a subdivision—they ended up with the least desirable property. Their chosen site was marshy, mosquito-ridden, and without fresh water. Buckets could be dipped into the James, of course, but the water was potable only part of the year. During the summer, the river falls as much as 15 feet (5 meters). No longer pushed back by a big flow of fresh water, the salty water of the estuary spreads upstream, stopping right around Jamestown. Worse, sediments and organic wastes from the head of the river get trapped at the saltwater boundary. The colonists were drinking some of the dirtiest water in the James—"full of slime and filth," complained Jamestown president George Percy.

By the end of September, nearly half of the original 104 colonists had died. Percy attributed most of the deaths to "mere famine," but he was wrong, in the view of the late historical geographer Carville Earle. The river teemed with fish in the summer—especially big, meaty Atlantic sturgeon—and the English caught and ate them. (Archaeologists at Jamestown have uncovered remains from a sturgeon as long as 14 feet [4 meters].) Instead, Earle argued, the colonists were killed by "typhoid, dysentery, and perhaps salt poisoning." All are associated with contaminated water. During winter the water would have cleared, but not in time to help the *tassantassas*. Many had been too sick that summer to tend the company gardens. Initially the strangers hoped to trade with the Indians for food while they spent their days hunting for gold, but the region was deep into a multiyear drought, and the Indians did not want to part with what little food they had. By January, only 38 colonists were alive—barely.

Within months, John Smith took charge of Jamestown. His wily, sometimes brutal diplomacy allowed the foreigners to extract enough food from Tsenacomoco villages to survive the next winter. This was quite a feat—with the arrival of two more convoys, the number of mouths at Jamestown had risen, even with all the deaths, to about 200. Despite his successes, Smith, a yeoman's son, managed constantly to irritate his social betters in the Virginia Company's leadership. Worse for the colony, he left for medical treatment in England in the fall of 1609. He had suffered terrible burns when a bag of gunpowder he had fastened around his waist accidentally ignited. In his absence, things deteriorated. That winter, the death toll again was high.

Although Jamestown was nearly defenseless, Powhatan didn't attack. For the first year or two of the colony's existence, he seems to have decided that the foreigners' trade goods—guns, axes, glass beads, and copper sheets, which the Indians prized much the way Europeans prized gold ingots—were worth giving up some not-very-valuable real estate. In addition, Powhatan was probably convinced that the tassantassas would die off without his assistance, suggests Helen Rountree, an emerita anthropologist at Old Dominion University, in Norfolk, and the most prominent historian of Tsenacomoco. He could sit back and wait; the invasion from abroad would end itself.

Things would get ugly before Powhatan was proved wrong. By the beginning of 1610, the settlers at Jamestown were dining on "dogs, cats, rats, and mice," Percy wrote, as well as the starch for their Elizabethan ruffs, which could be cooked into a kind of porridge. With famine "ghastly and pale in every face," some colonists stirred themselves to "dig up dead corpse[s] out of graves and to eat them." One man murdered his pregnant wife and "salted her for his food." When John Rolfe arrived that spring, only about 60 people at Jamestown had survived what was called "the starving time."

Appalled by what they found and with limited supplies, Rolfe's group quickly decided to abandon Jamestown. They loaded the skeleton-like survivors into boats, intending to set off for Newfoundland, where they would beg a ride home from fishing vessels that plied the Grand Banks. As they waited for the tide to turn for their departure, they saw three ships approaching. It was yet *another* convoy, this one amply supplied and containing a replacement governor and 150 more colonists. The old colonists, despondent, returned to the task of figuring out how to survive. It wasn't easy. At least 6,000 people came to Virginia from England between 1607 and 1624. More than three out of four died.

The central mystery of Jamestown is why the badly led, often starving colonists were eventually able to prevail over the bigger, better-organized forces of the Powhatan empire. In other parts of the Americas, colonizers had their way smoothed for them, so to speak, because they landed in places that already had been devastated by Eurasian illnesses like smallpox, measles, and typhoid—diseases that had not existed in the Americas. When the Pilgrims came to Massachusetts in 1620, for instance, they established Plymouth village literally on top of an Indian village that had been emptied two years before by an epidemic (apparently spread by survivors of a French vessel that shipwrecked on Cape Cod). In Virginia, despite previous contact with Europeans, the Powhatan had somehow avoided any epidemics and were going strong when the Jamestown colonists arrived. Yet by the late 17th century, the Powhatan too had lost control of their land. What happened?

One answer emerging points to what historian Alfred Crosby calls "ecological imperialism." The tassantassas replaced or degraded so much of the native ecosystem that they made it harder and harder for the Indians to survive in their native lands. As the colonists bitterly came to realize that Virginia had no gold and that the Indians weren't going to selflessly provide them with all the food they needed, they



began to mold the land to their needs. Unable to adapt to this foreign landscape, they transformed it into a place they could understand. In doing so, they unleashed what would become a multilevel ecological assault on North America. Their unlikely weapons in this initial phase of the campaign: tobacco, honeybees, and domestic animals.

Pocahontas actually did help save the colony—by marrying John Rolfe. The English appear to have liked the girl—but not enough to prevent them from abducting her in 1613. They demanded that Powhatan return the English guns he had acquired, but the leader refused to negotiate with people he must have regarded as criminals. Perhaps Pocahontas was angered by her father's refusal to ransom her. Perhaps she liked being treated royally by the English, who viewed her as a princess. Perhaps Pocahontas, by then a teenager, simply fell in love with one of her captors—decorous, pious, politically adept John Rolfe, who for his part seems to have truly fallen for her. In any case, she agreed to stay in Jamestown as Rolfe's bride.

Both Powhatan and Jamestown's leaders seem to have viewed Pocahontas's marriage as a de facto nonaggression treaty. As relations eased, the foreigners were given free rein to grow tobacco. In Tsenacomoco, the custom was for families to farm their plots and then let them go fallow when yields declined. Any land not currently being planted became common hunting or foraging grounds until needed again for farms. Rolfe and the other tassantassas found a loophole in the system. To them, the Indians' unfenced land looked unused—no matter that it was purposely kept open by burning, and constantly traversed by hunting and gathering parties. The English cleared this "vacant" land to plant tobacco, but instead of abandoning fields as they were depleted, gave them over to cattle and horses. Rather than cycling the land between farm and forest, they divided it into parcels and kept them in continuous agricultural use—permanently keeping prime farm and forage land away from the James River societies, pushing the Indians farther and farther away from the shore.

Tobacco fueled an addiction for more and more land. The Indians had long grown the crop, but only in small amounts, and in fields that mixed different plants. Driven by the English demand, the colonists covered big stretches of land with *N. tabacum*. Neither natives nor newcomers understood the environmental impact of growing it on a massive scale. "Tobacco has an almost unique ability to suck the life out of soil," says Leanne DuBois, the agricultural extension agent in James City County. "In this area, where the soils can be pretty fragile, it can ruin the land in a couple of years." Constantly wearing out their fields, the colonists cleared ever more forest, leaving behind sparse pastureland.

Even in their own villages and farm fields, the Indians couldn't escape the invasive species brought by the English—pigs, goats, cattle, and horses. Indians woke up to find free-range cows and horses romping through their fields, trampling the harvest. If they killed the beasts, gun-waving colonists demanded payment. To the English, the whole concept of a "civilized" landscape was one in which ownership of the land was signaled by fencing fields and raising livestock. After all, England had more domestic animals per capita than most other European nations. "They looked down on the Indians because they had no domestic animals," says Virginia DeJohn Anderson, a historian at the University of Colorado at Boulder. At first the imported animals didn't do well, not least because they were eaten by starving colonists. But during the peace after Pocahontas's marriage, they multiplied. Colonists quickly lost control of them.

The worst may have been the pigs. Smart, strong, constantly hungry, vicious when crossed, they ate nuts, fruits, shellfish, and corn, turning up the soil with their shovel-like noses in search of edible roots. Among these was tuckahoe, a starchy tuber the Indians relied on when times were hard and their corn

crops failed. The pigs liked it, too. The natives found themselves competing for food with packs of feral pigs.

But the largest ecological impact may have been wreaked by a much smaller, seemingly benign domestic animal: the European honeybee. In early 1622, a ship arrived in Jamestown that was a living exhibit of the Columbian exchange. It was loaded with exotic entities for the colonists to experiment with: grapevine cuttings, silkworm eggs, and beehives. Most bees pollinate only a few species; they tend to be fussy about where they live. European honeybees, promiscuous beasts, reside almost anywhere and pollinate almost anything in sight. Quickly, they swarmed from their hives and set up shop throughout the Americas.

The English imported the bees for honey, not to pollinate crops—pollination wasn't widely understood until the late 19th century—but feral honeybees pollinated farms and orchards up and down the East Coast anyway. Without them, many of the plants the Europeans brought with them wouldn't have proliferated. Georgia probably wouldn't have become the Peach State; Johnny Appleseed's trees might never have borne fruit; Huckleberry Finn might not have had any watermelons to steal. So critical to European success was the honeybee that Indians came to view it as a harbinger of invasion; the first sight of one in a new territory, noted French-American writer Jean de Crèvecoeur in 1782, "spreads sadness and consternation in all [Indian] minds."

The question arises: If the colonists were pushing Powhatan out of Tsenacomoco, why didn't he push back? Clearly the Indians were more numerous and understood the terrain better. They were also well armed—colonial matchlocks were less accurate than native bows and took longer to reload. One answer is that Powhatan was slow to realize the foreigners would not self-destruct after all. Year after year, they died by the scores, amply proving to him that the English didn't know how to survive in America. Yet new shiploads just kept coming. Although Powhatan sent representatives to London, he apparently didn't understand the implications of their reports of its dense population. England could keep replacing colonists, no matter how many died. By the time he realized this, Powhatan was an old and tired man who had lost his appetite for what would have been a bloody enterprise.

Records suggest a substantial fraction—as much as a third—of the immigrants in Virginia before 1640 were from the marshes of southern and eastern England. In the 17th century, these areas were rampant with malaria. It was not unusual for 10 or 20 percent of the marsh population to die in a single year, according to Mary Dobson, a medical historian. In contrast to the rest of England, burials outstripped baptisms during much of the 17th and 18th centuries. Little wonder people from these areas wanted to emigrate to the Americas.

But rather than escaping malaria, the colonists brought the disease with them, thanks to the marvelously complicated life cycle of the single-celled plasmodium parasite that causes it. In theory, it would take only one such carrier to arrive at Jamestown and get bitten by one of the mosquito species that inhabit the East Coast to establish malaria in the entire continent. In this way, one or more colonists must have "infected" the New World's mosquitoes with the parasite for malaria. "It's a bit like throwing darts," said Andrew Spielman, the late Harvard professor of tropical public health. "Bring enough sick people in contact with enough mosquitoes, and sooner or later you'll hit the bull's-eye—you'll establish malaria."

If malaria arrived early, it may help explain why the Indian chief never mounted a sustained fight against the colonists, even when it became a matter of survival to the people. Malaria effectively saps the

vitality of entire regions. In England's malaria belt, marshlanders were routinely dismissed as stupid, apathetic, and fatalistic. Similar abuse was heaped on the settlers at Jamestown; Strachey was one of many who denounced what he saw as their propensity for "sloth, riot, and vanity." But at least England could ship in new colonists rapidly. The Indians could not. If a substantial fraction of their population was malarious, it would have limited their ability to attack the colonists. From the native point of view, it would have been as if the environment around them had suddenly become toxic.

No matter how the parasite was actually introduced to Virginia, we know that malaria spread throughout the East Coast, eventually playing a major part in the pageant of U.S. history. Without malaria, slaves would have been less desirable to southern planters: Most people from tropical Africa are resistant to the plasmodium parasite, the product of millennia of evolution in its presence. The disease became especially endemic in the Carolinas, where it crippled the army of British Gen. Charles Cornwallis during the Revolutionary War. England had by that time drained its marshes and largely been freed of malaria. Meanwhile, the colonists had become seasoned. "There was a big imbalance. Cornwallis's army was simply melting away," says J. R. McNeill, an environmental historian at Georgetown University. McNeill takes pains to credit the bravery of the Revolution's leaders. But a critical role was played by what he wryly refers to as "revolutionary mosquitoes." Cornwallis surrendered, effectively ending the war, on October 19, 1781.x

By then the Columbian exchange was in full swing. The Atlantic coast was dotted with monoculture fields devoted to such alien crops as wheat, rice, and West Indian tobacco. Black rats from Europe were devouring Indian corn stores from Maine to Florida. Meanwhile, European farmers were adopting New World plants like corn, potatoes, and tomatoes; chili peppers, unknown in Asia before Columbus, were on their way to taking over Indian, Thai, and Chinese kitchens. It looked more like England than it had when Jamestown began, but it wasn't at all the same. Four centuries ago, the English didn't discover a New World—they created one.

<http://www7.nationalgeographic.com/ngm/0705/feature1/index.html>

